

AlphaEarth Intelligence Dossier

Generated: 2026-03-13

1. Field Configuration

Location: 4.5667, 11.1167

Crop: Cocoa - Forastero (Amelonado) (Perennial - 20 Year Horizon)

Soil Type: Sandy Clay Loam

Initial Nutrients (mg/kg): N=30.0, P=16.9, K=104.0

Disease Target: Unidentified Satellite Anomaly

2. Agronomic Diagnostics

Bio-Physical Potential (Optimal Mgmt): **5.02 t/ha (20y Average)**

Forecast Yield (Current Scenario): **0.33 +/- 0.10 t/ha (20y Average)**

Yield Gap: **93.4%** loss attributed to current management and disease pressure.

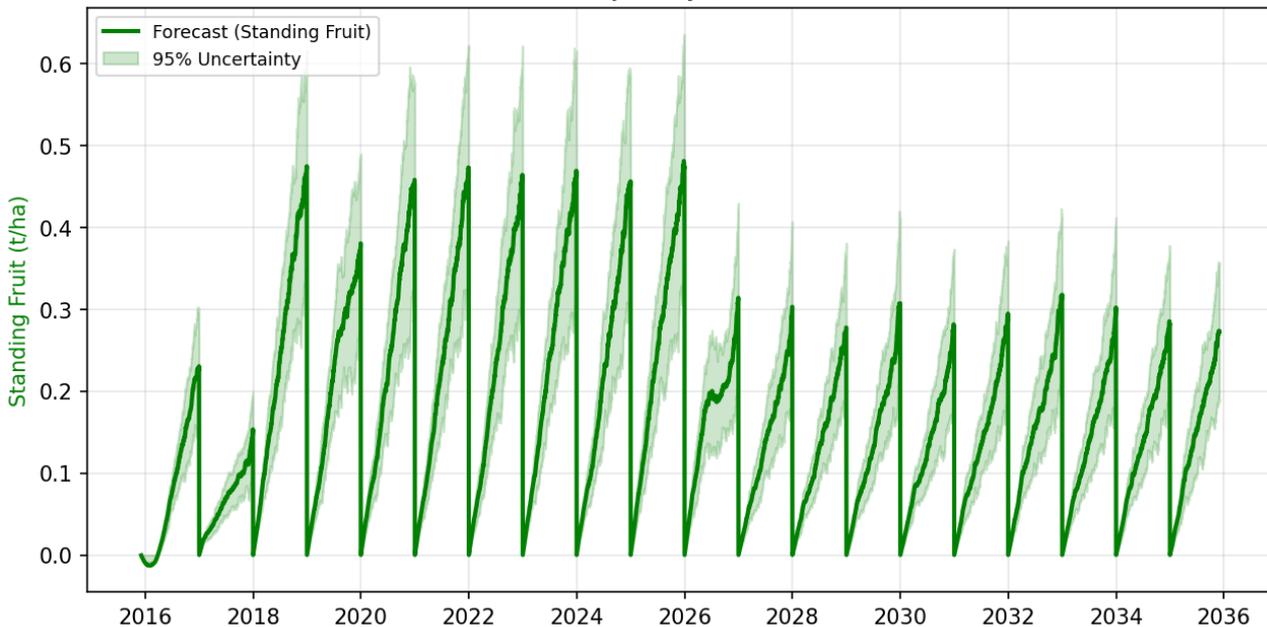
Est. Total Production: 17.6 +/- 5.5 tonnes

Current Water Stress Peak: 39.2% severity.

Current Nitrogen Stress Peak: 99.9% severity.

Long-Term Risk: 0 severe drought weeks projected over the next 20 years.

Simulation Trajectory (20 Year Horizon)



3. Smart Water Management

Current Status: **MODERATE** (Peak Stress Index: 0.39)

Seasonality Insight: Optimal Planting: **January** (Harvest in January).

Rationale: Maximizes vegetative rainfall while targeting a harvest month with **12mm** rain (Limit: 100mm).

Status: Safe.

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Recommended Supplemental Irrigation Calendar:

Date	Amount (L/ha)	Rationale
2016-01-22	600,000 L/ha	Refill Soil Moisture to 90% FC
2019-03-02	607,000 L/ha	Refill Soil Moisture to 90% FC
2020-03-11	605,000 L/ha	Refill Soil Moisture to 90% FC
2021-03-07	608,000 L/ha	Refill Soil Moisture to 90% FC
2022-03-11	610,000 L/ha	Refill Soil Moisture to 90% FC
2024-03-02	601,000 L/ha	Refill Soil Moisture to 90% FC
2027-03-05	602,000 L/ha	Refill Soil Moisture to 90% FC
2028-03-02	606,000 L/ha	Refill Soil Moisture to 90% FC
2029-03-22	603,000 L/ha	Refill Soil Moisture to 90% FC
2030-03-13	611,000 L/ha	Refill Soil Moisture to 90% FC
2031-03-13	605,000 L/ha	Refill Soil Moisture to 90% FC
2034-03-13	609,000 L/ha	Refill Soil Moisture to 90% FC

Projected Impact: Implementing this schedule contributes to reaching the potential yield.

4. Precision Nutrition Strategy

Objective: Maintain N-P-K levels above critical thresholds during active growth.

Recommended Product Application Schedule:

Date	Product	Rate (kg/ha)	Rationale
2016-12-25	Urea (Granular)	54.8 kg	High Nitrogen demand (25kg/ha deficit) for vegetative growth.
2017-02-16	Urea (Granular)	54.5 kg	High Nitrogen demand (25kg/ha deficit) for vegetative growth.
2017-04-02	Urea (Granular)	58.7 kg	High Nitrogen demand (26kg/ha deficit) for vegetative growth.
2017-05-17	Urea (Granular)	57.0 kg	High Nitrogen demand (26kg/ha deficit) for vegetative growth.
2017-07-01	Urea (Granular)	61.4 kg	High Nitrogen demand (28kg/ha deficit) for vegetative growth.
2017-08-15	Urea (Granular)	57.4 kg	High Nitrogen demand (26kg/ha deficit) for vegetative growth.
2017-09-29	Urea (Granular)	64.8 kg	High Nitrogen demand (29kg/ha deficit) for vegetative growth.

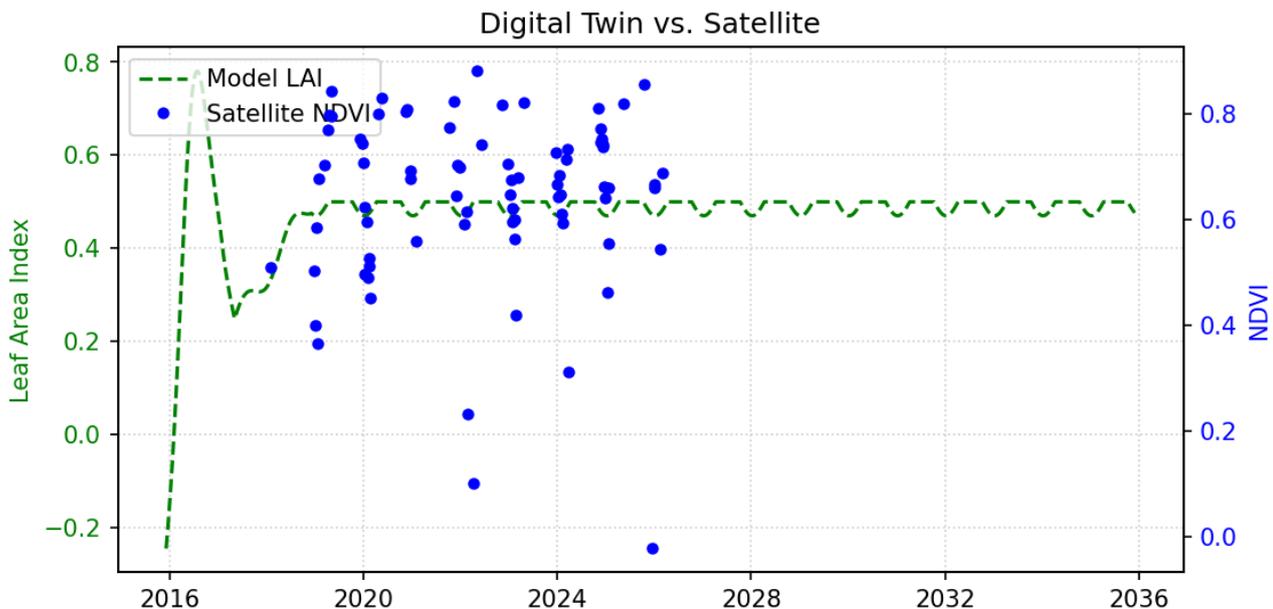
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Date	Product	Rate (kg/ha)	Rationale
2017-11-13	Urea (Granular)	64.3 kg	High Nitrogen demand (29kg/ha deficit) for vegetative growth.
2017-12-28	Urea (Granular)	76.2 kg	High Nitrogen demand (35kg/ha deficit) for vegetative growth.
2018-02-11	NPK 30-10-10+TE (Soluble)	121.7 kg	High Nitrogen demand (36kg/ha deficit) for vegetative growth.
2018-03-28	NPK 30-10-10+TE (Soluble)	133.0 kg	High Nitrogen demand (39kg/ha deficit) for vegetative growth.
2018-05-12	NPK 20-20-20+TE (Soluble)	111.6 kg	Balanced nutrition required to maintain soil fertility.
2018-06-26	NPK 20-20-20+TE (Soluble)	116.5 kg	Balanced nutrition required to maintain soil fertility.
2018-08-10	NPK 20-20-20+TE (Soluble)	116.5 kg	Balanced nutrition required to maintain soil fertility.
2018-09-24	NPK 20-20-20+TE (Soluble)	116.5 kg	Balanced nutrition required to maintain soil fertility.
...	and 139 more events.		

5. Satellite Reality Check

Comparison of Digital Twin growth model (LAI) vs observed Satellite Vegetation Index (NDVI).



Interpretation: Strong correlation confirms calibration.

6. Epidemiological Risk

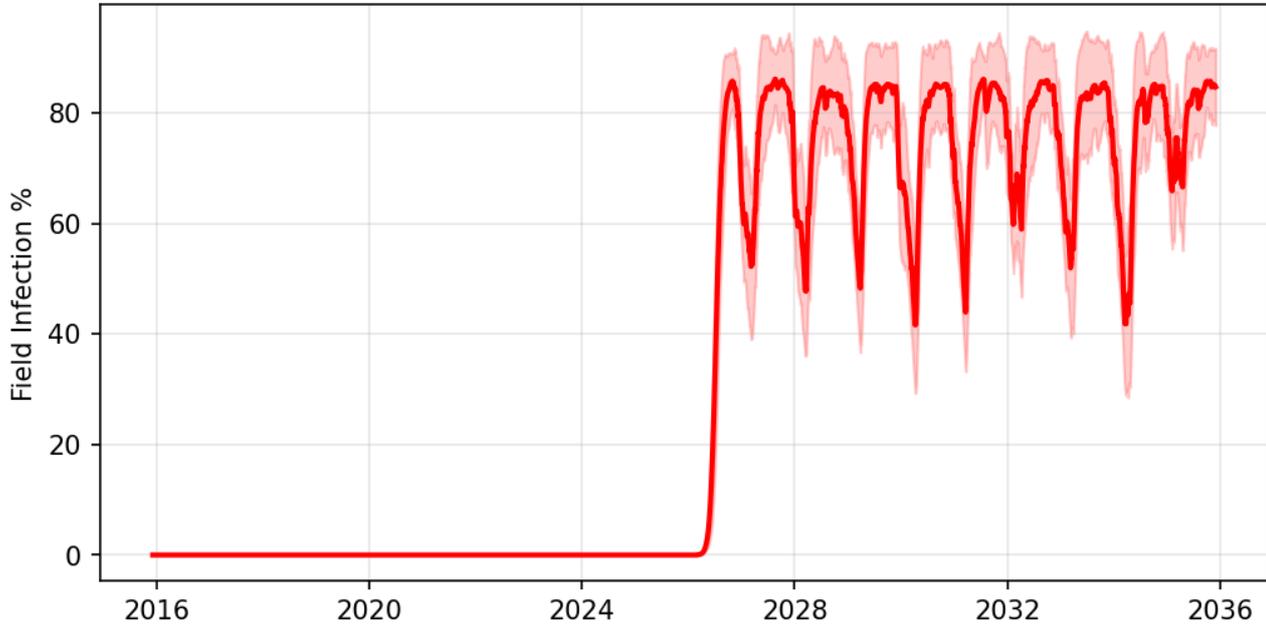
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Pathogen: **Unidentified Satellite Anomaly**

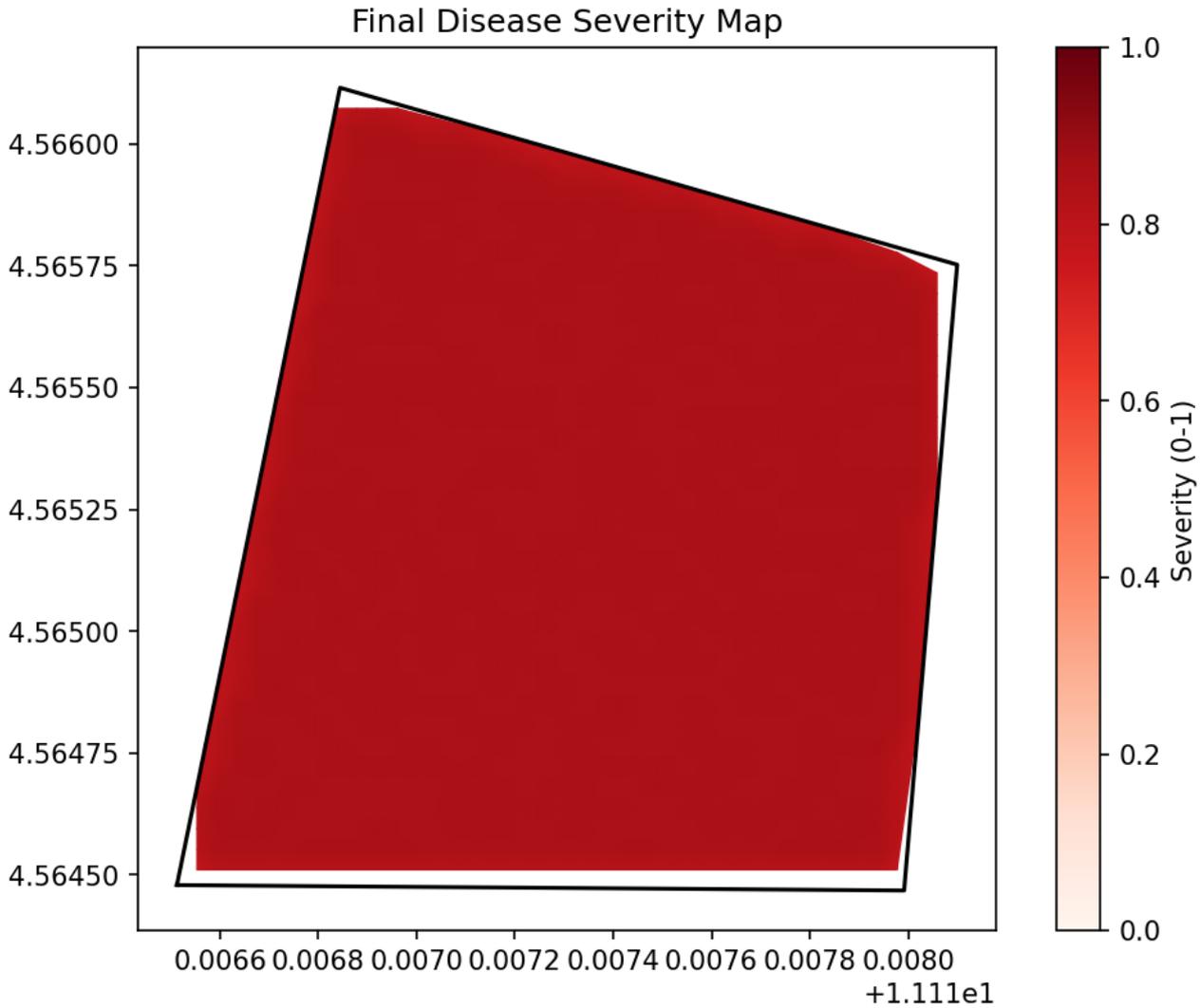
Final Infection Severity: 84.7% +/- 7.0%.

Disease Progression



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7. Management Recommendations

Specific Protocols for Unidentified Satellite Anomaly:

- **Surveillance:** Ground-truth required.
- **Sanitation:** Remove symptomatic plants.
- **Nutrition:** Boost Potassium and Silicon.

! Nitrogen Deficiency.